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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/711,686      | 09/30/2004  | Mark A. Fredette     | 20.2915             | 5685             |

23718 7590 11/30/2005

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SUGAR LAND, TX 77478

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| EXAMINER |
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FULTON, CHRISTOPHER W

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| ART UNIT | PAPER NUMBER |
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2859

DATE MAILED: 11/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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|                              |                                   |                                 |  |
|------------------------------|-----------------------------------|---------------------------------|--|
| <b>Office Action Summary</b> | Application No.<br>10/711,686     | Applicant(s)<br>FREDETTE ET AL. |  |
|                              | Examiner<br>Christopher W. Fulton | Art Unit<br>2859                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/30/04</u> . | 6) <input type="checkbox"/> Other: ____.  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 9-11, and 18-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Hunt-Grubbe.

The device as claimed is disclosed by Hunt-Grubbe with a tool body 12, a plurality of arms 32 coupled by a pivot 36 to the tool body, a cam 40 coupled to the arm such that the position of the cam changes as the arm deflects, and a proximity sensor 70 for sensing the position of the cam.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 8 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hunt-Grubbe.

The device as claimed is disclosed by Hunt-Grubbe as stated in the rejection recited above for claims 1, 2, 9-11, and 18-21, but lacks the proximity sensor being a non-contact differential variable reluctance transducer. The Hunt-Grubbe reference does not disclose any particular proximity sensor, but discloses the use of any old and well known proximity sensor. Non-contact differential variable reluctance transducers are old and well known proximity sensors. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a non-contact differential variable reluctance transducer in the Hunt-Grubbe device as an old and well known proximity sensor.

6. Claims 3, 5, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hunt-Grubbe in view of Deaton ('056).

The device as claimed is disclosed by Hunt-Grubbe as stated in the rejection recited above for claims 1, 2, 9-11, and 18-21, but lacks bow springs to bias the arms outward toward the surface of the borehole. Deaton teaches using bow springs 25 to bias the arms outwardly into contact with the surface of the borehole. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a bow spring in the Hunt-Grubbe device as taught by Deaton to bias the arm outward toward the surface of the borehole.

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7. Claims 4, 13, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hunt-Grubbe in view of Deaton ('056) as applied to claims 3, 5, and 12 above, and further in view of Moake et al.

The device as claimed is disclosed by the combination of Hunt-Grubbe and Deaton together as stated in the rejection recited above for claims 3, 5, and 12, but lacks the bow spring being on the outside of the arm to contact the surface of the borehole. Moake et al teaches using a bow spring in contact with the surface of the borehole. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to rearrange the bow spring and arm of the combination of Hunt-Grubbe and Deaton as taught by Moake et al so that the bow spring is in contact with the surface of the borehole. It is old and well known to use contact pads at locations that are to be in contact with the measuring surface to make the contact area more durable during use of the device. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a contact pad in the contact area of the device of the combination of Hunt-Grubbe, Deaton, and Moake et al as is old and well known in the art to increase the durability of the contact area.

8. Claims 6, 7, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hunt-Grubbe in view of Deaton ('056) as applied to claims 3, 5, and 12 above, and further in view of Bagnell.

The device as claimed is disclosed by the combination of Hunt-Grubbe and Deaton together as stated in the rejection recited above for claims 3, 5, and 12, but lacks the pivot point being between the arm and the bow spring. Bagnell teaches using a pivot point between the arm and the bow spring. Therefore, it would have been obvious to one of ordinary skill in the art at

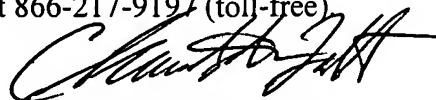
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the time the invention was made to make a pivot point between the arm and the bow spring of the combination of Hunt-Grubbe and Deaton as taught by Bagnell to connect the arm between the bow spring and the body to support the bow spring and translate the motion of the bow spring to the measurement arm.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher W. Fulton whose telephone number is (571) 272-2242. The examiner can normally be reached on M-Th 5:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego F.F. Gutierrez can be reached on (571) 272-2245. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Christopher W. Fulton  
Primary Examiner  
Art Unit 2859

CWF